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INFORMATION ON RAILROADS IN SOVIET ZONE GERMANY

[redacted]

3 ~~October~~ November 1950

SECRET
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Work of the "Railroad Institute" in Berlin

On orders from the Russians, the projects and studies concerning the central workshop type of freight car repair are to be completely stopped, down to the smallest details.

The following work and repair processes, which have already been tested, are to be used as the basis for a new project for determining the proper size for an improved central freight car repair shop, in order to obtain the maximum and best results:

1. Standardization and interchangeability of materials for the repair of freight cars

2. Perfection of processes for efficient and economic cleaning and oil removal from cars, metal, and other equipment

3. Improvement of the rust-removal process by blasting with sand

4. Development of an economic and efficient process for protective painting

5. Non-metallic covering for the roofs of the cars.

The work and repair processes cannot be specified until after a complete check on the work of the repair shops, by means of an industrial accounting system. As a result, another requirement for the project will be to get detailed information on:

6. The adaptation of the accounting system in the railroad repair shops to the general accounting system (research on the expenses of each shop).

Consequently, further detailed information on the improved repair shop is necessary. The details will on the repair and work procedures will have to be noted down, in order to obtain useful technical and economic results which will be most advantageous for the projected shop. The personnel requirements and the number of work posts will be determined from the work diagrams and from the continuous work rhythm for the repair process, from which the exact size of the shop can be calculated.

The maximum daily repair quota for the projected central repair shop is set at 140 for damaged freight cars, including 28 freight car trucks.

In order to reach this quota it is considered necessary to work six days a week, so as to avoid interruptions in the work caused by irregularities in the arrival of cars and by unequal conditions of exploitation. This would mean that 6 x 140, or 840 cars would be handled per week. Under these conditions, 600 dump cars and 240 box cars should be kept in reserve; these should include 100 four-axle dump cars and 70 four-axle box cars.

At present it is planned to construct such repair shops at Kattowitz, Moscow, Makloyevka, Stalino, Sverdlovsk. There is also ~~xxx~~ some thought of building such a shop at Minsk and another at Kolpino or Slusk. The construction of such a shop in the Soviet Zone of Germany has been abandoned for the present, and the German technicians are to be sent to Russia to participate in the work there.

News from Reichsbahn Directorate Erfurt

Reichsbahn Directorate Erfurt is planning to replace as many men as possible with women. According to the plan, 12,000 of the 30,000 posts in the Reichsbahn Directorate are to be filled by women.

At a conference held on 26 July 1949 in Leipzig the condition of the railroad in District Directorate Halle is described as "catastrophic". On an average there is one "slow stretch" every three kilometers.

The line between Mühlhausen and Silberhausen has been classified as a secondary road. All roads on which traffic is less than 20 trains per day will be ~~xxx~~ classed as secondary roads, and the crossing gates will be removed from such lines.

The bridge over the Werra near Berka a. d. Werra has now been repaired.

On ~~x~~ 15 August 1949 the ~~xxx~~ locomotive park for Reichsbahn Directorate Erfurt was as follows: locomotives for passenger trains, 134; locomotives for freight trains, 172; locomotives in the marshalling yards, ~~x~~ 71. This is an increase of 30 percent in comparison with 1 January 1949. There were also 1,100 passenger cars. Since the freight cars are not ~~assigned to~~ under the authority of the Reichsbahn Directorate, their number could not be determined.

A recent project is the conversion of 40 locomotives for passenger trains to operate on brown coal dust. The conversion is to be completed by the end of December 1949. Also, an installation is to be built at Erfurt to store brown coal dust.

There have been certain shortages of materials, especially of metal cables and of white metal "WM 10" used for bushings and bearings.

According to recent directives, all available "SS" cars (special platform cars for the transport of vehicles) are to be concentrated in Weimar.

Change in Boundaries Between Reichsbahn Directorates Dresden and Erfurt

The following lines, which have been administered by Reichsbahn Directorate Dresden, were turned over to Reichsbahn Directorate Erfurt on 5 May 1949:

Wuenschendorf - Weida - Mechltheuer (exclusive)

Zeulenroda, lower station - Zeulenroda, upper station

Gera - Wuenschendorf (new boundary between the Reichsbahn Directorates on the Gera - Weischlitz line ne r kilometer point 11.250).

Wuenschendorf - Ämdschutz (new boundary near kilometer point 21.580).

Gera - Goessnitz (exclusive), new boundary at kilometer point 1.750.

Ronneburg - Grossbbaunshein.

All privately owned lines in Reichsbahn Directorate Erfurt have now become "people-owned" with the exception of one 10-kilometer stretch from Wenigentaft through Mannsbach to Oechsen, near the boundary line. This line belongs to the Hagemeier Company, Ltd., and is used to transport basalt.

Work has been started throughout Reichsbahn Directorate Erfurt to replace present heavy rails on secondary lines with light rails.

The Reichsbahn budget provided 11 million Deutsche marks for construction work in Reichsbahn Directorate Erfurt. Because of a shortage of funds, only 1.5 million Deutsche marks were spent during the first half of 1949.

All receipts of Reichsbahn Directorate Erfurt have to be turned over to the Investment Bank. The Reichsbahn has thus lost its financial independence.

Repair Trains ~~[illegible]~~ (April 1949)

Two 30-car trains for line repair and one 6-car train for bridge repair have been ~~put into condition~~ outfitted for Reichsbahn Directorate Dresden. The cars were built at the Dresden-Friedrichstadt repair shop. The outfitting of the interiors of the cars was apparently done in a private workshop. These repair trains are badly needed because of the present condition of the lines. Such trains were used effectively during the war to repair air-raid damage.

Reichsbahn Activities ~~xx~~ during the First Half of 1949

Freight car loadings were 15,989, compared with 13,681 for the same period in 1948, although during the same period the number of freight cars in operation increased only from 68,225 to 70,526.

45.8 million tons of freight were carried, compared with 87.9 million for the entire year 1948.

421.1 million passengers were carried, compared with 922.5 million for the entire year 1948.

Locomotives Fired With Coal Dust

The inventor of this system is Hans Wendler of Stendal. The fuel, consisting of briquettes and briquette chips, is placed in a pyramid-shaped compartment in the tender, from which it falls into a mill located approximately half-way between the axles of the tender. The fuel is kept moving into the mill by means of a shaker operated by ~~an endless screw~~ a worm. A compressed air turbine starts the operation of the mill and shaker.

The pulverized fuel falls from the mill into a water bath. About 80 percent of the materials ~~xx~~ floats, while the larger pieces, constituting about 20 percent, fall to the bottom and are carried to a second mill, coupled to the first and called the tubular mill for moist fuel; ~~xxxxxxxxxx~~ here ~~xx~~ they ~~xx~~ are reground. An air-steam mixture is blown into the bath compartment, and carries the coal dust from the surface of the water to the fire-box, which is a compartment about 400 millimeters in diameter, lined with fireclay and equipped with spiral eddy chambers. The grain size of the dust is 0.06 millimeters maximum.

The tubular mill also receives a steam-air blast, but it is under low pressure whereas the blast in the first mill is under high pressure. The tubular mill also has a steam jacket for drying the fuel. The fuel ground in the tubular mill enters a grading compartment mounted on the side of the fire-box, and falls on a step grate, Hot air is blown in through the grate bars. The fuel dust is blown into the fire-box at great speed and burns in suspension, igniting the fuel which had entered the firebox from the first mill. The firebox contains cooling tubes for circulation of water.

This type of firing is installed on a standard Borsig 232 locomotive. Heating surface: 352 square meters; grill surface: 3.2 square meters; steam pressure: 20 atmospheres; power: 3,600 metric horsepower; fuel consumption: 9 - 11 kilograms of brown coal briquettes per kilometer; temperature in firebox: 1700° Centigrade.

The Reichsbahn Repair Shop in Stendal has received an order for 200 locomotives operated on coal dust. The first of these has already been completed and is now running on the Copenhagen - Warnemunde - Berlin - Dresden - Bad Schandau - Prague line.

The use of coal dust fired locomotives will permit a saving of about 50 percent in the consumption of fuel.

Construction Development Bureau (KTB) No. 2, at Wildau

The bureau for the construction of locomotives was discussed at the beginning of 1949. It employed engineers from the former "Standardisation Bureau of the German Locomotive Union", under the management of Chief Engineering Counsellor Ziehm.

The Soviet authorities assigned the bureau the following study projects:

construction of generator locomotives with gas turbines

construction of steam turbine locomotives

construction of locomotives for steam under high pressure.

The studies themselves have been completed, but the prototypes cannot be built because the Soviet Zone of Occupation lacks the necessary machine tools and materials. The turbine for the gas turbine locomotive has been built, by the firm of Brueckner and Kanis in Dresden, but the generator and the starting engine can be built only by a firm in West Germany, Siemens-Schuckert, which has simply sent the plans for the engine but has not dispatched the materials.

The construction of the other two prototypes has run into difficulties in the manufacture of boilers and tubes. The firm "Karl Marx" (a people-owned plant) in Drewitz, which was to manufacture the boilers, encountered insurmountable difficulties and had to turn down the order.

As a last resort, it was decided to try using a boiler from a "Type 52" locomotive, but this attempt was also unsuccessful.

After the dissolution of Construction Development Bureau No. 2, work on the three prototypes was stopped completely.

One group from the Construction Development Bureau was instructed to draw up plans for the manufacture of tools and special installations for the construction of the locomotives. To this end, numerous plans for tools and installations which already exist were located throughout Germany and placed at the group's disposal. Some tools and installations were built at Wildau, particularly milling machines for working sheet metal, and sent to the USSR. All these operations were carried out by the "Wildau Vehicle Company, Ltd.", which was specially created for the purpose by four members of the Bureau,

including Chief Engineering Counsellor Ziehm. The necessary capital was furnished by the Soviet authorities. This company was put in charge of correspondence with German firms, and also gave the orders for the parts to be used for the tools and installations to be sent to the USSR.

This firm was also dissolved when the Construction Development Bureau was dissolved.

The People-Owned Plant at Wildau

At the same time the Construction Development Bureau was dissolved, the Wildau Locomotive Plant was converted into the Wildau People-Owned Plant. It is now attached to the "Federation of People-Owned Locomotive and Railroad Car Construction Plants" (LOWA).

The present research bureau of the Wildau People-Owned Plant hired the 40 specialists who had worked for the Construction Development Bureau. This bureau is also directed by Chief Engineering Counsellor Ziehm.

The workshops, under the management of Director Barbe, employ about 400 workers. They are equipped with numerous machine tools of modern design, one set of which is for the manufacture of wheel sets. Most of these machine tools were purchased second-hand in the Soviet Zone of Occupation or in Berlin. Their number is constantly increasing.

Production is concentrating especially on replacement parts for the railroads of the Soviet Zone. Capacity is limited by the shortage of special machines. Milling machines for the trapezoidal threading of the rods (about 1.50 meters long) for the tilting grate are totally lacking.

Preparatory work is under way for the execution of an order given under the heading of reparations. The entire order includes 60 "bulldozers" to be made by the enterprises attached to LOWA. According to a general description, these are to be rail vehicles, steam driven and equipped with a very heavy plow. They are said to be intended for the mining industry.

Manufacture of Cars at Dessau and at Ammendorf

Change of Gauge for New Export Rolling Stock

According to statements of specialists, it appears that the system of

of changing gauge on a single axle by means of clamps is no longer used.

The new principle consists of including with the export stock the corresponding broad-gauge axles, and changing the axles at the border stations. This new system requires 20 minutes to change the axles on a 4-axle car.

The following technical reasons are given:

a. Elimination of the play of the wheels on the axle.

b. Limitation of the electrical resistance of the axles to 15 ohms (this could not be accomplished with the old system, and it endangered safety by reducing the conductivity of the material, the safety system, signals, etc.)

c. Faster and less cumbersome.

Note: after the axles are changed, the original axles are sent back to the factory where they originated.

Labor force: about 2,500 laborers and white-collar workers.

Production:

The bulk of production goes to the USSR under the heading of reparations. At present steel refrigerator cars are being made, 13 meters in length, 4 axles, useful load, 32 tons.

On 27 August the firm sent 28 cars of this type to the station at Dessau where they were attached to a train. The train also carried steel tubes, freight car wheels, and crates bearing the address: Narjad, Moskova.

The price of a refrigerator car is 70,000 Deutsche marks (east), but the Soviet authorities allow only 30,000 Deutsche marks on the reparations account.

Construction of Railroad Ties of Reinforced Cement

(Blankenhain Cement Factory, Thueringen)

Cross-section of the ties is as shown in the sketch. The length is the same as that of wooden ties.

Composition of the concrete: ¼ cement and 3/4 following mixture: 30 percent sand, 30 percent gravel (maximum grain size 10 millimeters), 20 percent slate fragments (maximum grain size 10 millimeters), 20 percent powdered slate. The concrete is reinforced with perforated sheet metal, about 2 millimeters thick, shaped like a U with the open side downward. A trial section is being built between Zeitz and Gera. It will double the life of the line.

Soviet Corporation "Gottfried Lindner", Ammendorf

The Gottfried Lindner Railroad Car Factory, a Soviet Corporation in Ammendorf, has just completed 30 box cars and 5 refrigerator cars. It has also completed a deluxe train of 15 cars, painted blue and luxuriously outfitted. This train was inspected on 4 August 1949 by the Receiving Commission of the Soviet Military Administration of Sachsen-Anhalt. The cars and the train left Ammendorf during the night of 6 - 7 August, headed east.

At present the Lindner firm employs 600 laborers, technicians, and engineers.

Manufacture of Metal Bridges by Maxhuette at Unterwellenborn

The bridges manufactured by Maxhuette include the following two main pieces:

A steel plate 800 x 800 millimeters and about 20 millimeters thick. The sides have rounded grooves about 10 millimeters deep.

An iron T-bar with a crosspiece wide, a vertical 100 millimeters high, about 300 millimeters long, and 800 millimeters, 20 millimeters thick. On either side of the vertical, about 20 millimeters from it and every 20 millimeters out to the end of the crosspiece, there are extensions 20 millimeters thick, running parallel to the vertical. (See sketch for cross-section).

The plates and the T-bars have holes which are used for rivets when the bridges are assembled. Any empty spaces left after assembly (in the grooves between in the plates or the extensions on the T-bars) are filled by means of thermite welding rods. The various pieces are thus welded together.

The thermite welding rods were developed and applied by the Dresden Institute of Technology.

The Columns of Locomotives

The Russians have certain locomotives and attendant personnel at their sole disposal for handling shipments from the East Zone to the Russian border through Poland, and return, and for their own purposes within the Zone. These locomotives are under the "Central Managing Office for Brigades" under the Reichsbahn Directorate Berlin.

Each locomotive has attached to it a car which serves for quarters for the 11 men who constitute the personnel (three mechanics, three firemen, two conductors, two train captains, one equipment chief). Columns 21 and 22 lack the equipment chiefs.

Each such unit is called a brigade. Several brigades constitute a column, the number varying depending upon the objective.

On 15 May 1949 the columns were made up as follows:

Column Number	Location	Number of Locomotives	Of these, in reserve or under repair
1	Frankfort/Oder	40	10
2	Berlin-Karlshorst	25	5
3	Berlin-Pankow	25	5
4	Berlin-Lichtenberg	25	5
5	Berlin-Schoeneweide	30	10
6	Berlin-Gesundbrunnen	25	5
7	Berlin-Karlshorst	25	5
8	Frankfort/Oder	30	10
9,10	Cottbus	50	10
11	Hoyerswerda	25	5
12	Angermuende	25	5

[Note: There appears to be an omission in the original at this point, as the totals given below are not the sums of the figures given. However, it does not appear that all numbers between 12 and 21 can be missing, as the discrepancies in the totals are not great enough to account for eight columns.]

21	Grunewald-Berlin	26	10 since 12 May
22	Oebisfelde	25	5 " " "
	Total	406	100

Only 384 locomotives are now in the locomotive columns; the other 22 locomotives have been returned to the work sector of the circulating park since that time. Columns 1 - 17 are long-distance columns which haul shipments on Russian account from the East Zone to Russia through Poland.

Columns 21 and 22 are short-distance columns. Since the end of the Berlin blockade they have been used to maintain interzonal traffic between Berlin and the Western Zones.

Itineraries of the Long-Distance Columns

1. Berlin - Lichtenberg - Kuestrin - Schneidemuehl - Thorn - Korschen - Gerdauen - Pr. Eylau.

2. Berlin - Rummelsburg - Frankfurt/Oder - Neu Bentschen - Posen - Warsaw - Bialla.
   Cottbus Gueben
   Lukow - Brest-Litowsk.
   Czeremsa.

3. Berlin - Pankow - Scheune - Stettin - free port Freihafen.

Since about a year ago the usual length of time for a round trip on lines 1 and 2 has been about 10 - 12 days, compared with three to five weeks during the years 1945 - 1947.

The reduction in transit time and the refusal to use the locomotives' columns within the East Zone (except for the interzonal columns, which cannot be considered traffic on Russian account) has led to the present reduction in numbers of the locomotives' columns. At one time there were as many as 24 columns with a total of over 800 locomotives.

Since the shipments on Russian account are handled to a large extent by the German economy's facilities, the formation of special columns has been avoided. [Note: Presumably this refers to intrazonal shipments.]

The number of locomotive columns provides a certain elasticity in the volume of traffic on Russian account through Poland. If one assumes an operating strength of 270 locomotives, and a round trip time of 12 days (including short term repairs after each trip), 22 to 23 trains may be dispatched each day in each direction. Actually the average number at present is 15 - 17 trains per day.

According to an order from the Soviet Military Administration (General Kvakhnin), the 49 locomotives constituting the brigades in Reichsbahn Directorate Erfurt are to be turned over to Reichsbahn Directorate Berlin on 15 September 1949. No explanation was given.

Lindner Firm in Halle-Ammendorf

Since 1 March 1949 the Lindner firm (Soviet corporation) has been making express cars and platform cars for Russia. Sixteen completed express cars have been lined up on a siding. The personnel number from 2,000 to 3,500 men.

The factory has stopped producing self-propelled gun-carriages for the Russians.

The dining cars have been delivered under the heading of reparations. They were sent to Russia via Rumania and Bulgaria. Eight cars were completed by 1 May 1949.

Activities of the Reichsbahn Repair Shop at Potsdam

Adjoining the station at Potsdam, and to the north of it, is the repair shop for rolling stock. It was almost completely destroyed by air attacks. Two-fifths of it have now been temporarily repaired. Before the war it did not repair locomotives. At present its program provides for the repair of 10 locomotives per month, as well as 45 cars in group "1",(that is, those which are only slightly damaged), 20 cars in group "2" (more severely damaged), and 12 cars in group "3" (badly damaged, but salvageable).

Up to March the shop was not able to operate because of a shortage of credits. Since March 1949 the Russians have been supervising the credits very closely. In April the shop spent 100,000 Deutsche marks more than planned. The Russians demand that the shop restrict itself to the credits approved for it and that it maintain the peacetime price level. These conditions impose restrictions. The credits do not permit the shop to employ the 800 workers which it figured on. In April and May 100 workers had to be dismissed, and 100 more will have to be dismissed in June. With the reduced manpower and the shortage of replacement parts, the shop's quota cannot be fulfilled.

List of the Ownership Designations Used on Freight Cars Belonging to Private and Secondary Lines

Directorate Berlin	
Brandenburg City Railroad (private line)	BGTB
Niederbarnim Railroad (private line)	NE
East Havelland County Railroad (secondary line)	OHKB
Neukoelln-Mittenwald Railroad (secondary line)	NME
Teltow Railroad (secondary line)	Not given
Tegel-Friedrichsfelde Industrial Railroad (secondary line)	Not given
Directorate Cottbus	
Luebben-Cottbus County Railroad (secondary line) (Spreewald Railroad)	LCK SPWB
Niederlausitz Railroad (private line)	NLE
Forst City Railroad (secondary line)	FST
Spremberg City Railroad (secondary line)	(Sprembg Stadtb)
Wehrkirch - Rothenburg - Priebuss Line (secondary line)	WRP
Goerlitz County Railroad (secondary line)	De HB
Dahme - Uckrow Railroad (private line)	DUE
Directorate Dresden	
Schleiz Narrow-Gauge Line (secondary line)	OHNE*
Mittweide Industrial Railroad (secondary line)	SJBG
Burxdorf - Muehlberg Line (secondary line)	OHNE*
Goerlitz County Railroad (secondary line)	OHNE*
Directorate Erfurt	
Erfurt-Nottleben Line (private line)	ErfN
Hersfeld County Railroad (private line)	Hers
Kyffhaeuser Narrow-Gauge Railroad (private line)	Ky
Langensalza Narrow-Gauge Railroad (private line)	Lang
Obereichsfeld Narrow-Gauge Railroad (private line)	Ob
Oberweissbach Mountain (Mine) Railroad (private line)	OBB
Rennsteig - Frauenwald Line (private line)	Renn
Hohenehre - Ebeleben Narrow-Gauge Railroad (private)	Hoh Eb
Arnstadt - Ichtershausen Railroad (private line)	ArchstJ
Ilmenau- Grossbreitenbach Railroad (private line)	IlmGross C

Directorate Greifswald	
Prenzlau County Railroads (secondary line)	PK
Schoenermark - Damme Line (secondary line)	DS
Velgast - Pomeranian Land Railroad (secondary line)	PLB
Franzburg South Railroad (secondary line)	OHNE*
Greifswald - Grimmen Railroad (private line)	GGEP
Franzburg North Railroad (secondary line)	OHNE*
Pomeranian Land Railroad, Demmin (secondary line)	PLB Demmin
Pomeranian Land Railroad, Wolgast(Greifswald) (secondary)	PLB Greifsw
Pomeranian Land Railroad, Putbus (secondary line)	OHNE*
Pomeranian Land Railroad, Greifswald (secondary line)	PLB Greifsw
Eberswald - Finowfurth Railroad (private line)	EFE
Neubrandenburg - Friedland Eisenbahn (secondary line)	NFE
Directorate Halle	
Dessau - Woerlitz Railroad (private line)	DWE
Halle - Hettstedt Railroad (secondary line)	HHE
Prettin - Annaburg Railroad (secondary line)	PAK
Delitzsch Narrow-Gauge Railroad (secondary line)	DEL
Bergwitz - Kemberg Railroad (secondary line)	OHNE*
Eschornewitz Narrow-Gauge Railroad (secondary line)	OHNE*
Schildau Mockrehna Line (secondary line)	OHNE*
Directorate Magdeburg	
Halberstadt - Blankenburg Railroad (private line)	Halb BL
Haldensleben Railroad (private line)	Hald
Nordhausen - Wernigeroda Railroad (private line)	Nordh
Oschersleben - Schoeningan Railroad (private line)	OSchön
Osterwick - Wasserleben Railroad (private line)	Ost Was
Stendal - Tangermünde Railroad (private line)	St Tangmd
Nauendorf - Gerlebogk Railroad (private line)	NauGerl
Gernrode - Harzgerode Railroad (private line)	Gern H
Altmark Narrow-Gauge Railroad (secondary line)	Am Kl
Aschersleben - Schneidlingen - Nienhagener Railroad (sec.)	ASW

Gardelegen - Neuhaldensleben - Weferlingen (secondary)	GHW
Salzwedel Narrow-Gauge Railroad (secondary line)	Se
Stendal Narrow-Gauge Railroad, Inc. (secondary line)	St E
Wegenstedt - Calfoerder Line (secondary line)	Weg G
Wolmirstedt - Colbitz Line (secondary line)	WC
Debitz - Alsleben Line (secondary line)	DBA
Halle - Hettstedt Railroad (secondary line)	HH
Koennern - Rothenburg (Saale) Line (secondary line)	KR
Dessau - Radegast - Koethen Railroad (secondary line)	Dess
Wallwitz - Wettin Line (secondary line)	Wal
Narrow-Gauge Railroad, Inc., in Genthin (secondary line)	Gent
Narrow-Gauge Railroad in County Jerichow I (secondary)	JI
Goldbeck - Werben (Elbe) Line (secondary line)	GWE
Gommern - Pretzier Line (secondary line)	GP
Osterburg - Deutsch - Pretzier Line (secondary line)	OP

Directorate Schwerin

Westpriegnitz Narrow-Gauge Railroad (secondary line)	OHNE*
Ostpriegnitz Line (secondary line)	OHNE*
Ruppin Railroad (private line)	Rupp E
Brahlsdorf - Neuhaus Narrow-Gauge Railroad (private)	OHNE*
Boizenburg City and Harbor Railroad (secondary line)	OHNE*
Graal - Mueritz Spa Railroad (secondary line)	MBB

*Note: Although the letters OHNE were written in the original in capitals, like most of the other designations, it is probable that it is the German word "ohne", meaning "without", i.e., without any special designation.